UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
SOUTH BEND DIVISION

DAYS CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	**CAUSE NO. 3:17CV208-PPS /MGG**
	)	
LIPPERT COMPONENTS, INC. and INNOVATIVE DESIGN SOLUTIONS, INC.	)	
	)	
Defendants.	)	

consolidated with

INNOVATIVE DESIGN SOLUTIONS, INC.,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	**CAUSE NO. 3:17CV327-PPS/MGG**
	)	
DAYS CORPORATION,	)	
	)	
Defendant.	)	

OPINION AND ORDER

In these consolidated cases, rival manufacturers square off concerning their leveling systems for use on recreational vehicles, motorhomes, trailers, and other structures often parked on uneven ground. Days Corporation has a patent (No. 6,619,693 or the '693 patent) for an Apparatus and Method for Automatically Leveling an Object. Innovative Design Solutions, Inc. and/or Lippert Components, Inc. hold two similar patents: the first is Patent No. 6,584,385 (or the '385 patent) for a Vehicle

Leveling Assembly, and the second is Patent No. 6,885,924 (or the '924 patent) for a Vehicle Attitude Adjustment Assembly. The ownership of defendants' patents is currently in dispute. But we can set that issue to the side for the time being because the issue now before me is claims construction. There are a number of claims from all three patents that need to be construed.

I held a *Markman* hearing to flesh out the various issues in dispute. That moniker comes the seminal U.S. Supreme Court decision *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) where the court observed that the rights of a patentholder to exclude others from making, using or selling the patented invention are granted in exchange for the "full disclosure" of the invention. This means that "a patent must describe the exact scope of an invention and its manufacture to 'secure to [the patentee] all to which he is entitled, [and] to apprise the public of what is still open to them.'" *Id*. at 373, quoting *McClain v. Ortmayer*, 141 U.S. 419, 424 (1891). These requirements are met by the "specification" of the patent, which describes the invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art…to make and use the same," and by the patent's "claims," which "particularly poin[t] out and distinctly clai[m] the subject matter which the applicant regards as his invention." 35 U.S.C. §112(b).

The claims of a patent define the patent's scope. *Markman*, 517 U.S. at 373. Someone bringing an allegation of infringement must show that a patent's claim "'covers the alleged infringer's product or process,' which in turn necessitates a determination of 'what the words in the claim mean.'" *Id*. at 374, quoting H. Schwartz,

Patent Law and Practice 1, 80 (2d ed. 1995). The two steps of an infringement analysis are therefore: (1) "determining the meaning and scope of the patent claims asserted to be infringed," and (2) "comparing the properly construed claims to the device accused of infringing." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). *See also Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004).

Step one -- claims construction -- is a matter for the court. What this means is that where the meaning of claim terms is disputed, the court resolves the dispute to "clarify and explain what the claims cover." *Baxter Int'l, Inc. v. CareFusion Corp.*, 2019 WL 1897063, at *1 (N.D. Ill. Apr. 29, 2019), citing *Terlep v. Brinkmann Corp.*, 418 F.3d 1379, 1382 (Fed. Cir. 2005). *See also Markman*, 517 U.S. at 373. "Claim construction seeks to ascribe the 'ordinary and customary meaning' to claim terms as a person of ordinary skill in the art would have understood them at the time of invention." *Sumitomo Dainippon Pharma Co., v. Emcure Pharm. Ltd.*, 887 F.3d 1153, 1157 (Fed. Cir. 2018). "As a general rule, the ordinary and customary meaning controls unless 'a patentee sets out a definition and acts as his own lexicographer, or … the patentee disavows the full scope of a claim term either in the specification or during prosecution.'" *Id*, quoting *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

As the Federal Circuit teaches in *Sumitomo*, "[t]he plain claim language marks the starting point for our analysis." 887 F.3d at 1157. But applying the understanding of a person of ordinary skill in the art requires consideration of the disputed term "not only

in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). "[T]he context in which a term is used in the asserted claim can be highly instructive." *Phillips*, 415 F.3d at 1314. The specification is "always highly relevant to the claim construction analysis," and is usually dispositive as "it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582. (Fed. Cir. 1996). *See also Phillips*, 415 F.3d at 1315.

Claim to be Construed in the Days '693 Patent

There is only one disputed claim term in Days' '693 patent, namely "reference level plane" as used in Claims 12 and 13. To see the disputed language in its context, I will highlight the claim term within the full text of Claims 12 and 13. Reviewing these claims in their entirety also offers a helpful snapshot of how the leveling systems generally work.

12. An apparatus for automatically leveling a vehicle, comprising:
a plurality of legs each of which is mounted to the vehicle;
wherein each of the legs is movable between a retracted stowed position and an extended use position; and
wherein each of the legs is moved to the retracted stowed position to allow the vehicle to travel and each of the legs is moved to the extended use position to engage a ground surface prior to leveling the vehicle;
a sensor mounted to the vehicle to sense pitch and roll of the vehicle relative to a **reference level plane**;
wherein the sensor produces an orientation signal representing the vehicle pitch and roll; and
a controller coupled to each [of] the legs and the sensor;
wherein the controller monitors the orientation signal received from the sensor and in response to that signal the controller causes at least one of the legs to both extend to move the vehicle upwardly and retract to move the vehicle downwardly relative to

the ground surface, until the orientation of the vehicle reaches the **reference level plane** within a tolerance.

13. An apparatus for automatically leveling a vehicle, comprising:

a plurality of legs each of which is mounted to the vehicle;

wherein each of the legs is movable between a retracted stowed position and an extended use position; and

wherein each of the legs is moved to the retracted stowed position to allow the vehicle to travel and each of the legs is moved to the extended use position to engage a ground surface prior to leveling the vehicle;

a sensor mounted to the vehicle to sense pitch and roll of the vehicle relative to a **reference level plane**;

wherein the sensor produces an orientation signal representing the vehicle pitch and roll; and

a controller coupled to each of the legs and the sensor;

wherein the controller monitors the orientation signal received from the sensor and in response to that signal the controller causes at least one of the legs to move the vehicle relative to the ground surface until the orientation of the vehicle reaches the **reference level plane** within a tolerance; and

wherein the controller includes a memory for storing data corresponding to the **reference level plane** and is configured to write data representing an orientation signal to the memory to replace the **reference level plane** data with orientation signal data.

Days' contention is that "reference level plane" should be interpreted as "a plane chosen by the user as level." Lippert, by contrast, advocates for the following construction: "a reference plane that extends through the mounting locations of the four legs on the vehicle frame where the interior of the vehicle is at true level relative to the horizontal." The dispute sets up a contrast between a subjective and flexible definition (Days') and a fixed objective definition (Lippert's). Lippert argues that, to have any meaning, "reference level plane" needs to be defined by a geometric relationship to the vehicle. But this is so only if the concept must necessarily be a fixed plane determinable from prescribed points. The specification instead suggests that a "reference level plane"

is a user-determined plane set as the reference for determining when "level" is achieved by the system.

Both parties point to the specification's explanation that "the reference level plane generally corresponds to a vehicle orientation which results in the interior of the vehicle feeling at true level relative to the horizontal." '693 patent, col. 7, ll. 35-38. The specification also indicates that when the vehicle "is in the reference level plane…or a plane which is parallel to the plane…[the] vehicle **10** is preferably at true level." '693 patent, col. 7, ll. 64-66. The qualifiers "generally," "feeling at" and "preferably" support Days' subjective reading of "reference level plane." The initial setting of the reference level plane is recommended to be "as close to true level as possible." '693 patent, col. 10, ll. 11-12. The specification also describes how the reference level plane can be recalibrated or reset by the operator to account for heavy loads, "such that the vehicle *feels* or measures level from the inside of the vehicle." '693 patent, col. 10, ll. 19-20 (emphasis added). The setting of the reference level plane is accomplished manually by an operator according to his or her preference.

I understand the presumption that for most contemplated usages, having the vehicle interior at roughly true level will be desired. But I see no basis for a construction of "reference level plane" that would limit the term to "true level" as Lippert argues. I also find persuasive Days' observation that Lippert's construction links the plane to "the four legs on the vehicle frame" when Claims 12 and 13 prescribe only "a plurality of legs," which, as the parties agree [DE 57 at 3], simply means "more than one."

Finally, I note that the use of the indefinite article "a" in the term "a reference level plane" supports Days' more flexible interpretation. If "reference level plane" is understood as Lippert proposes, then it is a fixed concept of true level measured through the plane of the legs. Being a fixed measure, it would properly be referred to as "*the* reference level plane" because it is always the same.

I therefore construe "reference level plane" in Claims 12 and 13 of the '693 patent to mean "a plane chosen by the user as level," as contended by Days. This interpretation is supported by the plain language, which uses the indefinite article "a" and makes no reference to an absolute or objective standard of "true level." Instead, the specification speaks to a flexible reference level plane capable of being set and recalibrated by the operator to his or her preference, whether or not to true level for the vehicle's interior.

Claims to be Construed in the Lippert '385 Patent

There are seven claims to be construed from the Lippert '385 Patent. In addition, one of the claim terms -- the term "zero mode" -- is included in both the '385 and the '924 patents. I will take up each of these claim terms next.

1. "Located Anywhere in the Structure"

The term "located anywhere in the structure" is part of Claim 1 of Lippert's '385 patent. Days argues that the phrase is invalid for indefiniteness and for lack of enablement. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). Lippert's position is that "located anywhere in the structure" means what its plain language

suggests, and no claim construction is required. Here is how it reads in the context of the claim:

1. An assembly for correcting the attitude of any selected portion of structure, the assembly comprising:

a controller configured to connect to and control one or more jacks operable to change the attitude of a structure; and

a proportional two-axis tilt sensor connected to the controller and configured to be supported on the structure, the tilt sensor being configured to provide analog signals to the controller, which represent the degree of longitudinal pitch and lateral roll of the portion of the structure the sensor is supported on, the controller being additionally configured to move a selected portion of the structure into a desired attitude by commanding movement of the entire structure into an attitude where the tilt sensor signals match a preselected reference value corresponding to the desired attitude of the selected portion of the structure, thereby allowing any portion of the structure to be corrected to any desired attitude within a range of attitudes despite the location of the tilt sensor and allowing the tilt sensor to be **located anywhere in the structure**.

Because 35 U.S.C. §112 requires a patent holder to "particularly" and "distinctly" disclose the subject matter that is the patented invention, a claim can be challenged for lacking specificity. "A claim is invalid for indefiniteness if its language, when read in light of the specification and the prosecution history, 'fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.'" *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377 (Fed. Cir. 2015), quoting *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

Because under 35 U.S.C. §282, a patent is presumed to be valid, a challenge on invalidity grounds must be proved by clear and convincing evidence. *Biosig*, 783 F.3d at 1377. Days argues indefiniteness without any evidence supporting the conclusion that one skilled in the art would not reasonably understand that this invention allows the tilt

sensor to be "located anywhere in the structure." I'm at a loss to understand what is indefinite about this. And just saying that a phrase is indefinite, as Days claims, does not make it so.

For starters, the specification of the '385 patent explains that: "The tilt sensor **32** is connected to the controller **30** and may be mounted at any point on a vehicle to be leveled." '385 patent, col. 8, ll. 8-9. After explaining the function of the sensor and the controller to which the sensor sends signals describing the structure's pitch and roll, the specification also provides that "a motor vehicle leveler constructed according to the invention allows a user or installer to determine which portion of the vehicle will be level relative to gravity despite the location of the tilt sensor **32**," so that the sensor "may, therefore, be located anywhere in the vehicle." '385 patent, col. 8, ll. 15-20. Earlier in Claim 1 than the challenged language, the sensor is said to be "supported on the structure," and to provide signals of the pitch and roll "of the portion of the structure the sensor is supported on." '385 patent, col. 17, ll. 10-14. The assembly described in Claim 1 is able to "allow[] any portion of the structure to be corrected to any desired attitude within a range of attitudes despite the location of the tilt sensor." '385 patent, col. 17, ll. 21-23.

As I said at the *Markman* hearing, "located anywhere in the structure" is broad, but I am not persuaded that it can be called "indefinite." The term does not describe an indefinite measure, as has sometimes (but not always) been found to be indefinite for patent purposes. *See Biosig*, 783 F.3d at 1382-83 (finding the "spaced relationship"

between electrodes sufficiently definite). Days relies on *Dow Chem. Co. v. Nova Chemicals Corp. (Canada)*, 803 F.3d 620, 635 (Fed. Cir. 2015), arguing that "located anywhere in the structure" lacks "objective boundaries." [DE 59 at 14.] To the contrary, the boundary set by the disputed term is within the structure. That any number of locations within the structure might be within the claim -- if the placement of the sensor can achieve the other elements of the claim -- does not render the claim indefinite, but merely broad as to the parameter of location. The Federal Circuit has several times underscored that breadth is not the same as indefiniteness. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017); *SmithKline Beechham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005).

The context in *Dow Chemical* was a patent for a type of plastic, and the indefinite terminology was "the slope of strain hardening." 803 F.3d at 624. The Federal Circuit noted that the degree of uncertainty tolerated under the definiteness requirement for patents is narrower "where different approaches to measurement are involved." *Id*. at 630. Because there were four possible methods for calculating the slope, each producing different results, and no guidance in the patent or the prosecution history as to which should be used, the claims containing the disputed term were found to be indefinite. *Id*. at 634-35. *See also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1338, 1341 (Fed. Cir. 2015) (involving three possible measures for "molecular weight"). Unlike *Dow Chemical* and *Teva*, the disputed term "located anywhere in the structure" does not

prescribe a measurement or computation as to which reasonable precision or exactness is required in order to understand what is claimed.

Particularly in view of the specification's detailed description of preferred embodiments in which the tilt sensor and its function is described as I set out earlier, the claim for a tilt sensor meeting the half-dozen other criteria of Claim 1 but located anywhere in the structure is sufficient to enable a skilled artisan to understand with reasonable certainty the scope of the invention. The claim term "located anywhere in the structure" is not void for indefiniteness.

I'll now consider the issue of enablement. "Under the enablement requirement, 'the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.'" *Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1375 (Fed. Cir. 2017), quoting *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997). Like indefiniteness, lack of enablement is an invalidity contention that "must be shown by clear and convincing evidence." *Trustees of Bos. Univ. v. Everlight Elecs. Co.,* 896 F.3d 1357, 1361 (Fed. Cir. 2018).

To satisfy enablement, the specification is not required to "expressly spell out every possible iteration of every claim." *Trustees of Bos. Univ.*, 896 F.3d at 1364 (finding that "epitaxially growing a monocrystalline layer directly on an amorphous layer would have required undue experimentation"). Especially for patents such as the '385 patent "in the mechanical or electrical arts, a single embodiment provides broad enablement because once imagined, other embodiments may be fashioned without

undue experimentation." *Penda Corp. v. United States,* 29 Fed. Cl. 533, 556 (1993). This is because the mechanical and electrical arts involve "predictable factors," unlike "arts involving unpredictable factors, such as chemistry and physiology," where the "requisite scope of enablement varies inversely with the degree of unpredictability of the factors involved." *Id*. The court in *Penda Corp.* observed that the design of pallets involves largely predictable factors, so that the disclosure of one embodiment was adequate to enable a claim that did not teach certain particulars about the design of a pallet "having fused portions in the leg sidewall." *Id*. at 556-557.

Claim 1 specifies that the controller is "configured to connect to…one or more jacks" but does not otherwise specify the location of the controller within the structure. '385 patent, col. 17, ll. 6-7. As to the tilt sensor, Claim 1 states that although the tilt sensor is "connected to the controller and configured to be supported on the structure," the tilt sensor can "be located anywhere in the structure" and still perform its role to detect the structure's tilt, and to convey signals representing that pitch and roll to the controller. The description of the sensor's function in Claim 1 and in the specification are not shown to require undue experimentation to determine the placement of either the controller or the tilt sensor within the structure.

A contrasting example of lack of enablement is found in *In re Marquez*, 738 F. App'x 1012 (Fed. Cir. 2018). There the Federal Circuit affirmed the Patent Trial and Appeal Board's rejection of a patent application for lack of enablement. The patent related to methods for creating artificial glands using membranes made up of cellular

components. *Id*. at 1013, 1014. Because the application did "not provide guidance for how to form cellular components into a membrane capable of surrounding a bio-reactor" and its "only working examples of artificial glands use cells rather than cellular components," the court concluded that creating the artificial glands covered by challenged claims would require undue experimentation and failed for lack of enablement. *Id*. at 1014-15. That the '385 patent does not specify where in a structure the tilt sensor is situated is a far cry from the undue experimentation required by the invalid claims of *In re Marquez*. " The placement of the tilt sensor is not an essential element of the sensor's operation, and the specification makes that plain.

Just like Day's argument for indefiniteness, I find that the argument for lack of enablement is unpersuasive, and certainly is not supported by clear and convincing evidence (as *no* evidence is offered in support). With the detailed description of the function of the tilt sensor in both the specification and Claim 1 of the '385 patent, the indication that the tilt sensor can be located anywhere in the structure is not shown to require undue experimentation to replicate the claimed invention. Days does not establish that a person of skill in the art would be unable to make or use the invention of Claim 1 due to the tilt sensor being "located anywhere in the structure."

2. "Infer Jack Ground Contact" & "Detect Jack Ground Contact"

The next two disputed terms have common elements and are treated together by the parties. Lippert's patents call "jacks" what the Days' patent calls the "legs" of the leveling system. The '385 patent contains two claims that refer to the leveling system's

controller being "configured to infer jack ground contact." The first of these is in Claim 7. It reads that the "controller is configured to infer jack ground contact based on dynamic information received from the tilt sensor and indicating jack loading." '385 patent, col. 17, ll. 44-46. The second is Claim 15's reference to "the controller being configured to infer jack ground contact based on tilt angle changes sensed by the tilt sensor."

The similar expression "detect jack ground contact" is used in three later claims in these contexts:

- "the controller is configured to detect jack ground contact from a change in tilt angle" (Claim 33, '385 patent, col. 21, ll. 14-16);
- "the controller being additionally configured to use signals from the tilt sensor to detect jack ground contact" (Claim 34, '385 patent, col. 22, ll. 6-8); and
- "detecting jack ground contact through tilt sensor indications of a change in the attitude of the structure resulting from jack ground contact" (Claim 35, '385 patent, col. 22, ll. 16-18).

The parties dispute the correct interpretation of "infer" or "detect" jack ground contact within the meaning of these claims.

Days contends that the terms "infer jack ground contact" and "detect jack ground contact" implicitly require a determination "that a jack has contacted the ground by detecting a change in tilt angle of the structure." [DE 59 at 15.] Days argues that this interpretation is "consistent with the specification, which discloses a method of inferring ground contact from changes in the tilt angle." [*Id.*] Lippert would construe

the disputed term more generally, to mean "determine that ground contact has been made by the jack based on data received from the tilt sensor" without a limiting reference to a change in tilt angle. [DE 60 at 17.]

First, I note that all 5 appearances of these related terms are in the context of the function of the tilt sensor. So any construction of the disputed terms that incorporates an explicit reference to the tilt sensor is inherently redundant. For instance, Lippert's proposed construction (in bold) would create a redundancy in Claim 7 to read: "…configured **to determine that ground contact has been made by the jack based on data received from the tilt sensor** based on dynamic information received from the tilt sensor…." This redundancy requires rejection of Lippert's proposed construction for Claim 7. *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1237, 1238 (Fed. Cir. 2016) (a patent claim should not be redundantly construed to include features already expressly recited in the claim). On the other side, I can reject Days' construction as to Claims 15 and 33 because Days' language referring to "tilt angle" would be redundant and add nothing to those two claims, which already expressly include the phrases "based on tilt angle changes" ('385 patent, col. 18, l. 37) and "from a change in tilt angle" ('385 patent, col. 21, ll. 15-16), respectively.

Aside from these issues of redundancy, the parties' dispute boils down to whether, as Days contends, tilt angle changes should be read into the broader language of Claims 7, 34 and 35. Days contends that the patent's specification teaches no method of determining ground contact other than from changes in the tilt angle. [DE 59 at 16.]

To that point, Lippert cites portions of the specification teaching that other data besides tilt angle may inform the controller's determination that the jack has made contact with the ground: "The adaptive filtering algorithm allows the controller **30** to recognize ground contact by looking at specific output characteristics received from the tilt sensor **32**. The output characteristics that the algorithm looks at are noise, rate of change, scale factor and temperature." '385 patent, col. 7, ll. 44-49. But the only algorithm disclosed in detail in the specification measures tilt angle only, not these other "output characteristics." '385 patent, col. 6, l. 46-col. 7, l. 40.

Courts performing claim construction are "to rely heavily on the written description for guidance as to the meaning of the claims." *Phillips*, 415 F.3d at 1317. The meaning of claim terms should be ascertainable by reference to the description of the invention set forth in the specification, and the "terms and phrases used in the claims must find clear support or antecedent basis in the description." *Id*. at 1317-18, quoting 37 C.F.R. §1.75(d)(1). At the same time, claim language is to be given its ordinary meaning and it is improper to impose a construction that would "add a limitation appearing in the specification and the drawings, but not appearing in the unambiguous language of the claim." *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1343 (Fed. Cir. 2001). And the Federal Circuit has repeatedly warned against limiting a claimed invention to a preferred embodiment or to particular examples offered in the specification. *See Varco, L.P. v. Pason Sys. USA Corp.*, 436 F.3d 1368, 1375 (Fed. Cir. 2006) (and cases cited

therein). These principles of claim construction defeat Days' attempt to construe the "jack ground contact" terms to be based only on detection of tilt angle changes.

The case cited by Days, *Gentry Gallery Inc. v. Berkline Corp.*, 134 F.3d 1473, 1480 (Fed. Cir. 1998), actually appears to support Lippert's position, in that it teaches that a patent holder is entitled to claims as broad as the disclosure and the prior art allow, and that a claim may be broader than the specific embodiment disclosed in the patent's specification. Here, the '385 patent describes a tilt sensor that reads characteristics other than tilt angle to allow the controller to recognize ground contract. '385 patent, col. 7, ll. 44-49. Even in the absence of a detailed embodiment of such a tilt sensor, claims such as 7, 34 and 35, whose plain language does not limit ground contact recognition to tilt angle, are not required to be so limited. Based on the plain language, I construe the terms "infer jack ground contact" and "detect jack ground contact" as used in Claims 7, 15, 33, 34, and 35 to mean "determine that ground contact has been made by the jack."

3. "Indicating Jack Loading"

Claim 7 of the '385 patent refers to the determination of jack ground contact "based on dynamic information received from the tilt sensor and **indicating jack loading**." '385 patent, col. 17, ll. 44-46. Days argues that the term "indicating jack loading" is invalid for indefiniteness, noting that the phrase does not appear in the patent's specification. [DE 59 at 16-17.] Both in Days' briefing and at the *Markman*

hearing, it became apparent that the challenge to the term is fundamentally grammatical.

For starters, the fact that the term is not found in the specification is not critical to its validity. So holds *Univ. of Rochester v. G.D. Searle & Co.*: "this court and its predecessor have repeatedly held that claimed subject matter 'need not be described in haec verba' in the specification to satisfy the written description requirement.[.]" 358 F.3d 916, 922-23 (Fed. Cir. 2004), quoting *In re Smith*, 481 F.2d 910, 914 (C.C.P.A. 1973). Nor am I persuaded that the term "indicating jack loading" is indefinite because it defies construction, as Days suggests, relying on *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008). "A claim will be found indefinite only if it 'is insolubly ambiguous, and no narrowing construction can properly be adopted…'" *Id*., quoting *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001).

Acknowledging the slightly awkward syntax of Claim 7, I can readily construe the language to clarify the intended meaning, by reading the term "indicating jack loading" as a second modifier of "dynamic information," along with the first modifier "received from the tilt sensor." In other words, the disputed portion of Claim 7 is construed to mean "…based on dynamic information **that is both** received from the tilt sensor **and** indicating jack loading." As to the meaning of the words "indicating jack loading," I find that no construction is required, and Days does not specifically argue that the phrase itself is ambiguous.

4. "Pre-Selected Reference Value"

Claims 1 and 29 of the '385 patent refer to "the controller being additionally configured to move a selected portion of the structure into a desired attitude by commanding movement of the entire structure into an attitude where the tilt sensor signals match a **pre-selected reference value** corresponding to the desired attitude of the selection portion of the structure." '385 patent, col. 17, ll. 14-20; '385 patent, col. 20, l. 63-col. 21, l. 4 (emphasis added). Days contends that the term "pre-selected reference value" should be construed to mean "a sensor signal value chosen by the user or installer." [DE 59 at 18.] Lippert made clear at the *Markman* hearing that it is not persuaded the term requires construction, and I agree. This is an instance in which "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction…involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314.

The "dispute" about this claim term is not really a challenge to the meaning of the words used in the claim. Instead, Days' proposal attempts to define *how* the reference value is pre-selected, but Days fails to establish why that must be further defined within the claim. As I indicated at the *Markman* hearing, I am unpersuaded that the term "pre-selected reference value" requires construction. I conclude that as the term is used in Claims 1 and 29, the term's ordinary and customary meaning would be readily understood by a person of ordinary skill in the art.

5. "Dynamic Information"

By now this portion of Claim 7 is familiar: the "controller is configured to infer jack ground contact based on **dynamic information** received from the tilt sensor and indicating jack loading." '385 patent, col. 17, ll. 44-46. Days challenges the term "dynamic information" as indefinite, noting that the phrase does not appear in the specification. For the same reason as before, I find that the term's failure to appear in the specification does not, without more, invalidate the term or the claim. *Univ. of Rochester,* 358 F.3d at 923. But is the ordinary and customary meaning of the term "dynamic," as used in the context of Claim 7, readily understood by a person of ordinary skill in the art?

In construing the term, I must start with the plain meaning of the words. I also consider the context of the term within the claim and any help the specification provides in understanding the term. In addition, "it bears remembering that all issued patent claims receive a statutory presumption of validity" under 35 U.S.C. §282. *CLS Bank Int'l v. Alice Corp. Pty.*, 717 F.3d 1269, (Fed. Cir. 2013). *See also Christy, Inc. v. United States*, 141 Fed. Cl. 641, 651 (2019). "Dynamic" is commonly understood (and would be by those skilled in the art of designing or constructing a leveling system) as referring to something that changes, or is changeable, as opposed to static or unchanging. And the context in which "dynamic" appears in Claim 7 is information received *from a sensor*,

which by definition has the ability to sense changes. So far, the plain meaning of the term plus the context appear to yield a reasonably understandable meaning of the term.

What's more, the specification offers confirmation of this conclusion. For instance, the specification provides that "[w]hen the tilt sensor **32** is attempting to detect ground contact during initial grounding of the levelers as shown in FIGS. **21** and **22**, the sensor **32** must be very sensitive to changes in movement." '385 patent, col. 6, ll. 29-32. Also "the controller **30**…recognize[s] ground contact by looking at specific output characteristics received from the tilt sensor **32**" including "noise, rate of change, scale factor and temperature." '385 patent, col. 7, ll. 45-49. Operation of the controller is described as "sens[ing] ground contact when it receives signals from the tilt sensor **32** indicating a change in tilt angle." '385 patent, col. 9, ll. 40-41. These examples from the specification provide additional support for a plain meaning construction of "dynamic information" in Claim 7 as espoused by Lippert to mean "a change in information." "[T]he failure of the specification to specifically mention a limitation that later appears in the claims is not a fatal one when one skilled in the art would recognize upon reading the specification that the new language reflects what the specification shows has been invented." *All Dental Prodx, LLC v. Advantage Dental Prod., Inc.*, 309 F.3d 774, 779 (Fed. Cir. 2002). Days has not satisfied its burden of demonstrating Claim 7's invalidity by clear and convincing evidence. *Microsoft Corp. v. I4I Ltd. P'ship*, 564 U.S. 91, 95 (2011) (quoting 35 U.S.C. §282(a)).

6. "Selectively Extended"

The preamble to Claim 15 describes "[a]n assembly for correcting the attitude of a structure by operating jacks that extend from the structure to contact a support surface before being **selectively extended** to correct the attitude of the structure[.]" '385 patent, col. 18, ll. 23-26. Days contends that the term "selectively extended" must be read to mean "extended in pairs." [DE 59 at 19.] Lippert argues that the disputed term has a plain and ordinary meaning and requires no construction, and that Days improperly attempts to read a limitation from the specification into the claim. [DE 60 at 24-25.]

Initially, I observe that there is nothing about the phrase "selectively extended" that connotes extension in pairs, as opposed to singly or in groups of 3 or more. Neither does the plural "jacks" earlier in the preamble necessarily support Days' construction. There the context of "jacks" is the extension of presumably all legs initially "to contact a support surface," which occurs "before being selectively extended" to level the structure as desired. The concept of *selective* extension suggests that fewer than all the jacks may be extended, but implies nothing about the number of jacks selected for further extension in the leveling process.

Days cites several portions of the specification in support of its preferred construction of "selectively extended" to mean pairs of jacks. The first is the explanation that "[t]he controller **30** levels a vehicle by extending the jacks in pairs parallel to longitudinal pitch and lateral roll vehicle axes." '385 patent, col. 5, ll. 61-63. Days also

cites the specification's description of the system's automatic adjustment of vehicle attitude if found to be out-of-level too long: "No individual leveler needs to be actuated during this sequence, only pairs of devices are activated at any one time." '385 patent, col. 9, ll. 8-10. Lippert responds with citations of its own, to portions of the specification expressly referring to extension of one jack at a time. "Each individual leveler is then extended in the order (LF, RF, RR, LR) until each leveler contacts the ground" ('385 patent, col. 9, ll. 42-44), and "[t]he controller **30** then activates the appropriate levelers in a predetermined leveling sequence to adjust vehicle attitude until the vehicle is level" ('385 patent, col. 9, ll. 50-52.) The specification further describes: "The step of extending each individual leveler is repeated for any other axis that requires leveling…." '385 patent, col. 10, ll. 9-11.

Because the specification does not disclose only extending jacks in pairs, as Days contends, its construction of "selectively extended" to mean "extended in pairs" is rejected. Instead, the term "selectively extended" as it appears in Claim 7 presents a plain and ordinary meaning, namely that any number of the "operating jacks that extend from the structure" may be extended as needed to correct the attitude of the structure.

7. "Zero Mode" in Lippert '385 and Lippert '924 Patents

As was noted at the outset, the term "Zero Mode" is used in both the Lippert '385 patent (in Claims 26, 27 and 28), and in the Lippert '924 patent (in Claim 19). The most complete description of the term is found in Claim 26 of the '385 patent and Claim 19 of

the '924 patent: a "controller programmed to include a **zero mode** in which the controller is ready to receive a signal that will instruct the controller to recognize signal values being received from the tilt sensor as indicating that a selected portion of the structure is in a desired attitude." '385 patent, col. 20, ll. 26-30; '924 patent, col. 20, ll. 24-29. Because the term is defined by this language within the claims themselves, I see no need to impose any additional claim construction. The specifications of both patents also reiterate definitional language virtually identical to that in these two claims. '385 patent, col. 3, ll. 29-33 and '385 patent, col. 13, ll. 31-35; '924 patent, col. 13, ll. 61-65.

The parties' dispute over the term, both in their briefing and at the *Markman* hearing, seems to fizzle in the face of this same recognition. Days' proposal to construe "zero mode" to mean "a condition of the controller in which it is ready to receive and recognize a signal" is redundant of the more detailed definitional language in Claim 26 and Claim 19. No claim construction is required of the term "zero mode."

8. "Analog Signal"

Claim 1 of the '385 patent describes "the tilt sensor being configured to provide analog signals to the controller…." '385 patent, col. 17, ll. 11-12. The parties agree that as used in Claim 1, "analog signals" are "output signals of the sensor." [DE 59 at 20; DE 60 at 26.] Days proposes a further construction of "analog signal" to mean "output signal of the sensor that is not a digital signal," an interpretation that highlights the ordinarily understood distinction between analog and digital signals. [DE 59 at 21.] Besides the customary meaning of the word "analog" as used in Lippert's Claim 1, Days cites the

repeated use of the term "analog signal" seven times in the specification of the '385 patent. [DE 59 at 21-22.] The tilt sensor's output of "analog" as opposed to digital signals is a limitation that is clearly expressed in both the specification and the claim, and Claim 1 is reasonably construed to mean what it plainly says. Further supporting Days' position is the prosecution history of the '385 patent, in which Lippert relied on the invention's use of analog signals to distinguish prior art that did not teach the use of analog signals. [DE 59-1 at 109, 146, 149, 156, 199, 216.]

In opposition, the first point Lippert urges is that "analog" in the context of Claim 1 distinguishes the signal format from that of a purely binary on/off "limit" switch. That kind of switch is described in the specification as "digital": "The tilt sensor **32** is used instead of limit type switches so that, instead of having the controller **30** wait for digital inputs that indicate level state, the tilt sensor **32** continuously supplies analog values to the controller **30.**" '385 patent, col. 8, ll. 23-26. To my mind, this language from the specification enforces the distinction between an analog and a digital output from the tilt sensor, and confirms that, of the two types of signals, the tilt sensor supplies analog values.

Lippert also points to the specification's description of the preferred embodiment, in which the analog signal output of the tilt sensor is "digitized" to be transmitted to the controller in a format the controller can process: "The dual axis tilt sensor **32** and the appropriate analog to digital converter hardware are shown in FIG. 4." '385 patent, col. 15, ll. 25-26. Lippert contends that "[a] person of ordinary skill in the

art would understand that the output analog signal produced by the proportional two-axis tilt sensor would need to be conditioned into a digitized format so that the analog values of the sensor output can be received and processed by the microcontroller." [DE 58 at 3.] Lippert's expert, Dr. Massoud S. Tavakoli, expresses the view that: "The specification of the '385 patent teaches that the analog signal produced by the proportional two-axis tilt sensor may be delivered to the microcontroller in a digitized format." [DE 58 at ¶9.] Even accepting these statements as true, they again reinforce that the output of the tilt sensor is in analog format, not digital.

I accept Days' construction of the term to mean "output signal of the sensor that is not a digital signal" because it is supported by the plain and ordinary meaning of the words "analog signal," by the repeated references to the "analog" output of the tilt sensor throughout the specification, and by the prosecution history of the '385 patent. Lippert does not appear to dispute (nor could it, really) that the tilt sensor's output is correctly described as an analog signal.

One last thing: Although I agree with Days that Claim 1's use of "analog signal" must mean what it plainly says, I don't agree, at least not at this stage of the proceedings, that "Days' proposed construction forecloses all digitization." [DE 60 at 28.] Whether or not the signal produced by the tilt sensor is later digitized, or must be digitized, for the invention to work is a matter that goes beyond construction of the term "analog signal" as used in Claim 1. Whether the larger phrase "configured to provide analog signals to the controller," as construed to refer to output signals that are

not in digital format, may encompass digitization occurring between the tilt sensor and the controller is also beyond the scope of the claim construction dispute now before me.

ACCORDINGLY:

The disputed claim terms in the patents-in-suit are construed by the court as set forth above.

SO ORDERED.

ENTERED: July 15, 2019.

/s/ Philip P. Simon
Philip P. Simon, U.S. District Judge